

SEQUENCE LISTING

<110> Luche, Ralf M.
Wei, Bo

<120> DSP-3 DUAL-SPECIFICITY PHOSPHATASE

<130> 200125.408C2

<140> US

<141> 2003-09-08

<160> 26

<170> FastSEQ for Windows Version 4.0

<210> 1

<211> 926

<212> DNA

<213> Homo sapien

<400> 1

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acatcggcaa cttcaaaagt gccagagacg cggaacaatt gagcaagaac aaggtgacac 180
atatctgtgc tgtccacgat agtgccaggc ctatgttgga gggagttaaa tacctgtgca 240
tcccagcagc ggattcacca tctcaaaacc tgacaagaca ttccaagaa agtattaaat 300
tcattcacga gtgccggctc cgcgggtgaga gctgccttgt acactgcctg gccggggctt 360
ccaggagcgt gacactgggt atcgcataca tcatgaccgt cactgacttt ggctgggag 420
atgccttgca caccgtgctg gctgggggat cctgtgccaa ccccaacgtg ggcttcaga 480
gacagctcca ggagtgtgag aagcatgagg tccatcagta tcggcagtggt ctgaaggaa 540
aatatggaga gagccctttg caggatgcag aagaagccaa aaacattctg gccgtccag 600
gaattctgaa gtcttgggcc ttctcagaa gactgtaatg tacctgaagt ttctgaaata 660
ttgcaaaccc gcagagttta ggctgggtgt gccaaaaaga aaagcaaatg agagttaatg 720
tatccagtag tgatttgtaa acttgttttt catttgaagc tgaatatata cgtagtcatg 780
tttatgttga gaactaagga tattctttag caagagaaaa tattttcccc ttatccccac 840
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<210> 2

<211> 184

<212> PRT

<213> Homo sapien

<400> 2

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Met Gly Asn Gly Met Asn Lys Ile Leu Pro Gly Leu Tyr Ile Gly Asn
1 5 10 15
Phe Lys Asp Ala Arg Asp Ala Glu Gln Leu Ser Lys Asn Lys Val Thr
20 25 30
His Ile Leu Ser Val His Asp Ser Ala Arg Pro Met Leu Glu Gly Val
35 40 45
Lys Tyr Leu Cys Ile Pro Ala Ala Asp Ser Pro Ser Gln Asn Leu Thr
50 55 60
Arg His Phe Lys Glu Ser Ile Lys Phe Ile His Glu Cys Arg Leu Arg

```

```

65          70          75          80
Gly Glu Ser Cys Leu Val His Cys Leu Ala Gly Val Ser Arg Ser Val
      85          90          95
Thr Leu Val Ile Ala Tyr Ile Met Thr Val Thr Asp Phe Gly Trp Glu
      100          105          110
Asp Ala Leu His Thr Val Arg Ala Gly Arg Ser Cys Ala Asn Pro Asn
      115          120          125
Val Gly Phe Gln Arg Gln Leu Gln Glu Phe Glu Lys His Glu Val His
      130          135          140
Gln Tyr Arg Gln Trp Leu Lys Glu Glu Tyr Gly Glu Ser Pro Leu Gln
      145          150          155          160
Asp Ala Glu Glu Ala Lys Asn Ile Leu Ala Ala Pro Gly Ile Leu Lys
      165          170          175
Phe Trp Ala Phe Leu Arg Arg Leu
      180

```

```

<210> 3
<211> 10
<212> PRT
<213> Homo sapien

```

```

<400> 3
Val His Cys Leu Ala Gly Val Ser Arg Ser
1          5          10

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```

<210> 4
<211> 23
<212> PRT
<213> Homo sapien

```

```

<400> 4
Gly Arg Val Leu Val His Cys Gln Ala Gly Ile Ser Arg Ser Gly Thr
1          5          10          15
Asn Ile Leu Ala Tyr Leu Met
      20

```

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<210> 5
<211> 24
<212> DNA
<213> Artificial Sequence

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<220>
<223> Primer used to obtain full length cDNA encoding
      DSP-3

```

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<400> 5
gacctcatgc ttctcaaaact cctg

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24

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<210> 6
<211> 21
<212> DNA
<213> Artificial Sequence

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<220>
<223> Primer used to obtain full length cDNA encoding
      DSP-3

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<400> 6
 cgatcaccag tgtcacgctc c 21

 <210> 7
 <211> 26
 <212> DNA
 <213> Artificial Sequence

 <220>
 <223> Primer used to obtain full length cDNA encoding
 DSP-3

 <400> 7
 cagaatatgt gtcaccttgc tcttgc 26

 <210> 8
 <211> 26
 <212> DNA
 <213> Artificial Sequence

 <220>
 <223> Primer used to obtain full length cDNA encoding
 DSP-3

 <400> 8
 gcaagaacaa ggtgacacat attctg 26

 <210> 9
 <211> 28
 <212> DNA
 <213> Artificial Sequence

 <220>
 <223> Primer used to obtain full length cDNA encoding
 DSP-3

 <400> 9
 ggggaatggga tgaacaagat cctgcccc 28

 <210> 10
 <211> 37
 <212> DNA
 <213> Artificial Sequence

 <220>
 <223> Primer used to obtain full length cDNA encoding
 DSP-3

 <400> 10
 cagtcttctg agaaaggccc agaacttcag aattcct 37

 <210> 11
 <211> 170
 <212> PRT
 <213> Homo sapien

 <400> 11

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Ser Asp Leu Asp Arg Asp Pro Asn Ser Ala Thr Asp Ser Asp Gly Ser
1      5      10      15
Pro Leu Ser Asn Ser Gln Pro Ser Phe Pro Val Glu Ile Leu Pro Phe
20      25      30
Leu Tyr Leu Gly Cys Ala Lys Asp Ser Thr Asn Leu Asp Val Leu Glu
35      40      45
Glu Phe Gly Ile Lys Tyr Ile Leu Asn Val Thr Pro Asn Leu Pro Asn
50      55      60
Leu Phe Glu Asn Ala Gly Glu Phe Lys Tyr Lys Gln Ile Pro Ile Ser
65      70      75
Asp His Trp Ser Gln Asn Leu Ser Gln Phe Phe Pro Glu Ala Ile Ser
85      90      95
Phe Ile Asp Glu Ala Arg Gly Lys Asn Cys Gly Val Leu Val His Cys
100     105     110
Leu Ala Gly Ile Ser Arg Ser Val Thr Val Ala Tyr Leu Met
115     120     125
Gln Lys Leu Asn Leu Ser Met Asn Asp Ala Tyr Asp Ile Val Lys Met
130     135     140
Lys Lys Ser Asn Ile Ser Pro Asn Phe Asn Phe Met Gly Gln Leu Leu
145     150     155     160
Asp Phe Glu Arg Thr Leu Gly Leu Ser Ser
165     170

```

```

<210> 12
<211> 168
<212> PRT
<213> Homo sapien

```

```

<400> 12
Asp Arg Glu Leu Pro Ser Ser Ala Thr Glu Ser Asp Gly Ser Pro Val
1      5      10      15
Pro Ser Ser Gln Pro Ala Phe Pro Val Gln Ile Leu Pro Tyr Leu Tyr
20      25      30
Leu Gly Cys Ala Lys Asp Ser Thr Asn Leu Asp Val Leu Gly Lys Tyr
35      40      45
Gly Ile Lys Tyr Ile Leu Asn Val Thr Pro Asn Leu Pro Asn Ala Phe
50      55      60
Glu His Gly Gly Glu Phe Thr Tyr Lys Gln Ile Pro Ile Ser Asp His
65      70      75      80
Trp Ser Gln Asn Leu Ser Gln Phe Phe Pro Glu Ala Ile Ser Phe Ile
85      90      95
Asp Glu Ala Arg Ser Lys Lys Cys Gly Val Leu Val His Cys Leu Ala
100     105     110
Gly Ile Ser Arg Ser Val Thr Val Thr Val Ala Tyr Leu Met Gln Lys
115     120     125
Met Asn Leu Ser Leu Asn Asp Ala Tyr Asp Phe Val Lys Arg Lys Lys
130     135     140
Ser Asn Ile Ser Pro Asn Phe Asn Phe Met Gly Gln Leu Leu Asp Phe
145     150     155     160
Glu Arg Thr Leu Gly Leu Ser Ser
165

```

```

<210> 13
<211> 170
<212> PRT
<213> Homo sapien

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<400> 13

Gly Leu Cys Glu Gly Lys Pro Ala Ala Leu Leu Pro Met Ser Leu Ser
 1 5 10 15
 Gln Pro Cys Leu Pro Val Pro Ser Val Gly Leu Thr Arg Ile Leu Pro
 20 25 30
 His Leu Tyr Leu Gly Ser Gln Lys Asp Val Leu Asn Lys Asp Leu Met
 35 40 45
 Thr Gln Asn Gly Ile Ser Tyr Val Leu Asn Ala Ser Asn Ser Cys Pro
 50 55 60
 Lys Pro Asp Phe Ile Cys Glu Ser Arg Phe Met Arg Val Pro Ile Asn
 65 70 75 80
 Asp Asn Tyr Cys Glu Lys Leu Leu Pro Trp Leu Asp Lys Ser Ile Glu
 85 90 95
 Phe Ile Asp Lys Ala Lys Leu Ser Ser Cys Gln Val Ile Val His Cys
 100 105 110
 Leu Ala Gly Ile Ser Arg Ser Ala Thr Ile Ala Ile Ala Tyr Ile Met
 115 120 125
 Lys Thr Met Gly Met Ser Ser Asp Asp Ala Tyr Arg Phe Val Lys Asp
 130 135 140
 Arg Arg Pro Ser Ile Ser Pro Asn Phe Asn Phe Leu Gly Gln Leu Leu
 145 150 155 160
 Glu Tyr Glu Arg Thr Leu Lys Leu Leu Ala
 165 170

<210> 14

<211> 168

<212> PRT

<213> Homo sapien

<400> 14

Pro Ala Gln Ala Leu Pro Pro Ala Gly Ala Glu Asn Ser Asn Ser Asp
 1 5 10 15
 Pro Arg Val Pro Ile Tyr Asp Gln Gly Gly Pro Val Glu Ile Leu Pro
 20 25 30
 Tyr Leu Tyr Leu Gly Ser Cys Asn His Ser Ser Asp Leu Gln Gly Leu
 35 40 45
 Gln Ala Cys Gly Ile Thr Ala Val Leu Asn Val Ser Ala Ser Cys Pro
 50 55 60
 Asn His Phe Glu Gly Leu Phe His Tyr Lys Ser Ile Pro Val Glu Asp
 65 70 75 80
 Asn Gln Met Val Glu Ile Ser Ala Trp Phe Gln Glu Ala Ile Ser Phe
 85 90 95
 Ile Asp Ser Val Lys Asn Ser Gly Gly Arg Val Leu Val His Cys Gln
 100 105 110
 Ala Gly Ile Ser Arg Ser Ala Thr Ile Cys Leu Ala Tyr Leu Ile Gln
 115 120 125
 Ser His Arg Val Arg Leu Asp Glu Ala Phe Asp Phe Val Lys Gln Arg
 130 135 140
 Arg Gly Val Ile Ser Pro Asn Phe Ser Phe Met Gly Gln Leu Leu Gln
 145 150 155 160
 Leu Glu Thr Gln Val Leu Cys His
 165

<210> 15

<211> 169

<212> PRT

<213> Homo sapien

<400> 15
 Pro Leu Ser Thr Ser Val Pro Asp Ser Ala Glu Ser Gly Cys Ser Ser
 1 5 10 15
 Cys Ser Thr Pro Leu Tyr Asp Gln Gly Gly Pro Val Glu Ile Leu Pro
 20 25 30
 Phe Leu Tyr Leu Gly Ser Ala Tyr His Ala Ser Arg Lys Asp Met Leu
 35 40 45
 Asp Ala Leu Gly Ile Thr Ala Leu Ile Asn Val Ser Ala Asn Cys Pro
 50 55 60
 Asn His Phe Glu Gly His Tyr Gln Tyr Lys Ser Ile Pro Val Glu Asp
 65 70 75 80
 Asn His Lys Ala Asp Ile Ser Ser Trp Phe Asn Glu Ala Ile Asp Phe
 85 90 95
 Ile Asp Ser Ile Lys Asn Ala Gly Gly Arg Val Phe Val His Cys Gln
 100 105 110
 Ala Gly Ile Ser Arg Ser Ala Thr Ile Cys Leu Ala Tyr Leu Met Arg
 115 120 125
 Thr Asn Arg Val Lys Leu Asp Glu Ala Phe Glu Phe Val Lys Gln Arg
 130 135 140
 Arg Ser Ile Ile Ser Pro Asn Phe Ser Phe Met Gly Gln Leu Leu Gln
 145 150 155 160
 Phe Glu Ser Gln Val Leu Ala Pro His
 165

<210> 16
 <211> 169
 <212> PRT
 <213> Homo sapien

<400> 16
 Pro Val Pro Pro Ser Ala Thr Glu Pro Leu Asp Leu Gly Cys Ser Ser
 1 5 10 15
 Cys Gly Thr Pro Leu His Asp Gln Gly Gly Pro Val Glu Ile Leu Pro
 20 25 30
 Phe Leu Tyr Leu Gly Ser Ala Tyr His Ala Arg Arg Asp Met Leu
 35 40 45
 Asp Ala Leu Gly Ile Thr Ala Leu Leu Asn Val Ser Ser Asp Cys Pro
 50 55 60
 Asn His Phe Glu Gly His Tyr Gln Tyr Lys Cys Ile Pro Val Glu Asp
 65 70 75 80
 Asn His Lys Ala Asp Ile Ser Ser Trp Phe Met Glu Ala Ile Glu Tyr
 85 90 95
 Ile Asp Ala Val Lys Asp Cys Arg Gly Arg Val Leu Val His Cys Gln
 100 105 110
 Ala Gly Ile Ser Arg Ser Ala Thr Ile Cys Leu Ala Tyr Leu Met Met
 115 120 125
 Lys Lys Arg Val Arg Leu Glu Glu Ala Phe Glu Phe Val Lys Gln Arg
 130 135 140
 Arg Ser Ile Ile Ser Pro Asn Phe Ser Phe Met Gly Gln Leu Leu Gln
 145 150 155 160
 Phe Glu Ser Gln Val Leu Ala Thr Ser
 165

<210> 17
 <211> 171
 <212> PRT

<213> Homo sapien

<400> 17

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Ser Glu Arg Ala Leu Ile Ser Gln Cys Gly Lys Pro Val Val Asn Val
 1          5          10          15
Ser Tyr Arg Pro Ala Tyr Asp Gln Gly Gly Pro Val Glu Ile Leu Pro
 20          25          30
Phe Leu Tyr Leu Gly Ser Ala Tyr His Ala Ser Lys Cys Glu Phe Leu
 35          40          45
Ala Asn Leu His Ile Thr Ala Leu Leu Asn Val Ser Arg Arg Thr Ser
 50          55          60
Glu Ala Cys Met Thr His Leu His Tyr Lys Trp Ile Pro Val Glu Asp
 65          70          75
Ser His Thr Ala Asp Ile Ser Ser His Phe Gln Glu Ala Ile Asp Phe
 85          90          95
Ile Asp Cys Val Arg Glu Lys Gly Gly Lys Val Leu Val His Cys Glu
100          105          110
Ala Gly Ile Ser Arg Ser Pro Thr Ile Cys Met Ala Tyr Leu Met Lys
115          120          125
Thr Lys Gln Phe Arg Leu Lys Glu Ala Phe Asp Tyr Ile Lys Gln Arg
130          135          140
Arg Ser Met Val Ser Pro Asn Phe Gly Phe Met Gly Gln Leu Leu Gln
145          150          155          160
Tyr Glu Ser Glu Ile Leu Pro Ser Thr Pro Asn
165          170

```

<210> 18

<211> 180

<212> PRT

<213> Homo sapien

<400> 18

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Ser Gly Ser Phe Glu Leu Ser Val Gln Asp Leu Asn Asp Leu Leu Ser
 1          5          10          15
Asp Gly Ser Gly Cys Tyr Ser Leu Pro Ser Gln Pro Cys Asn Glu Val
 20          25          30
Thr Pro Arg Ile Tyr Val Gly Asn Ala Ser Val Ala Gln Asp Ile Pro
 35          40          45
Lys Leu Gln Lys Leu Gly Ile Thr His Val Leu Asn Ala Ala Glu Gly
 50          55          60
Arg Ser Phe Met His Val Asn Thr Asn Ala Asn Phe Tyr Lys Asp Ser
 65          70          75
Gly Ile Thr Tyr Leu Gly Ile Lys Ala Asn Asp Thr Gln Glu Phe Asn
 85          90          95
Leu Ser Ala Tyr Phe Glu Arg Ala Ala Asp Phe Ile Asp Gln Ala Leu
100          105          110
Ala Gln Lys Asn Gly Arg Val Leu Val His Cys Arg Glu Gly Tyr Ser
115          120          125
Arg Ser Pro Thr Leu Val Ile Ala Tyr Leu Met Met Arg Gln Lys Met
130          135          140
Asp Val Lys Ser Ala Leu Ser Ile Val Arg Gln Asn Arg Glu Ile Gly
145          150          155          160
Pro Asn Asp Gly Phe Leu Ala Gln Leu Cys Gln Leu Asn Asp Arg Leu
165          170          175
Ala Lys Glu Gly
180

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<210> 19
 <211> 145
 <212> PRT
 <213> Homo sapien

<400> 19
 Met Gly Asn Gly Met Asn Lys Ile Leu Pro Gly Leu Tyr Ile Gly Asn
 1 5 10 15
 Phe Lys Asp Ala Arg Asp Ala Glu Gln Leu Ser Lys Asn Lys Val Thr
 20 25 30
 His Ile Leu Ser Val His Asp Ser Ala Arg Pro Met Leu Glu Gly Val
 35 40 45
 Lys Tyr Leu Cys Ile Pro Ala Ala Asp Ser Pro Ser Thr Arg His Phe
 50 55 60
 Lys Glu Ser Ile Lys Phe Ile His Glu Cys Arg Leu Arg Gly Glu Ser
 65 70 75 80
 Cys Leu Val His Cys Leu Ala Gly Val Ser Arg Ser Val Thr Leu Val
 85 90 95
 Ile Ala Tyr Ile Met Thr Val Thr Asp Phe Gly Trp Glu Asp Ala Leu
 100 105 110
 His Thr Val Arg Ala Gly Arg Ser Cys Ala Asn Pro Asn Val Gly Phe
 115 120 125
 Gln Arg Gln Leu Gln Glu Phe Glu Lys His Glu Val His Gln Tyr Arg
 130 135 140
 Gln
 145

<210> 20
 <211> 687
 <212> DNA
 <213> Mus musculus

<400> 20
 cgagcgcgga cgcgacgcgg cgcgcccatg gggagtgga tgagccagat cctgccgggc 60
 ctgtacattg gcaacttcaa agacgcaaga gatgcagaac agttgagcag gaacaagggtg 120
 acacacattt ttctgtgca cgatactgcc aggcccatgt tggaggaggat taataactctg 180
 tgtattccag cggcagacac accattctcaa aacctgacaa gacatttcaa agaagacatt 240
 aaattcattc atgagtgccg actccagggt gagagctgtc ttgtacattg cctggctggg 300
 gtctccagga gtgtgacatt ggtgatcgca tacatcatga ctgtaccga ctttggctgg 360
 gaagatgcct tgcacactgt tcgtgcgggg aggtcctgtg ccaaccccaa cctgggcttt 420
 caaaggcagc tgcaggagtt tgagaaacat gaagtgcacc agtatcgcca atggctgaga 480
 gaagagtatg gagagaaccc ttgcgggat gcagaagaag ccaaaaatat tctgggtaaa 540
 tataaagagc aaggggcgat ggagccccgg cctagcagca ggcgggtggag cagcttctca 600
 accctgcctc ctctcaccta caataactac acaacagaga cctaacagag agagctgggt 660
 tctgccttcc tgctgcgggt ctcttg 687

<210> 21
 <211> 205
 <212> PRT
 <213> Mus musculus

<400> 21
 Met Gly Ser Gly Met Ser Gln Ile Leu Pro Gly Leu Tyr Ile Gly Asn
 1 5 10 15
 Phe Lys Asp Ala Arg Asp Ala Glu Gln Leu Ser Arg Asn Lys Val Thr
 20 25 30

His Ile Leu Ser Val His Asp Thr Ala Arg Pro Met Leu Glu Gly Val
 35 40 45
 Lys Tyr Leu Cys Ile Pro Ala Ala Asp Thr Pro Ser Gln Asn Leu Thr
 50 55 60
 Arg His Phe Lys Glu Ser Ile Lys Phe Ile His Glu Cys Arg Leu Gln
 65 70 75 80
 Gly Glu Ser Cys Leu Val His Cys Leu Ala Gly Val Ser Arg Ser Val
 85 90 95
 Thr Leu Val Ile Ala Tyr Ile Met Thr Val Thr Asp Phe Gly Trp Glu
 100 105 110
 Asp Ala Leu His Thr Val Arg Ala Gly Arg Ser Cys Ala Asn Pro Asn
 115 120 125
 Leu Gly Phe Gln Arg Gln Leu Gln Glu Phe Glu Lys His Glu Val His
 130 135 140
 Gln Tyr Arg Gln Trp Leu Arg Glu Glu Tyr Gly Glu Asn Pro Leu Arg
 145 150 155 160
 Asp Ala Glu Glu Ala Lys Asn Ile Leu Gly Lys Tyr Lys Glu Gln Gly
 165 170 175
 Arg Met Glu Pro Arg Pro Ser Ser Arg Arg Trp Ser Ser Phe Ser Thr
 180 185 190
 Leu Pro Pro Leu Thr Tyr Asn Asn Tyr Thr Thr Glu Thr
 195 200 205

<210> 22
 <211> 17
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> PCR primer

<400> 22
 atgggggagtg ggtatgag

17

<210> 23
 <211> 28
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> PCR primer

<400> 23
 gatgttattg atgtgttgc tctggatt

28

<210> 24
 <211> 24
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> PCR primer

<400> 24
 ctattaatat gctgcctctg gatt

24

<210> 25

<211> 555
 <212> DNA
 <213> Homo sapien

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<400> 25
atggggaatg ggatgaacaa gatcctgccc ggcctgtaca tcggcaactt caaagatgcc      60
agagacgcgg aacaattgag caagaacaag gtgacacata ttctgtctgt ccacgatagt      120
gccaggccta tgttggaggg agttaaatat ctgtgcatcc cagcagcggg ttcaccatct      180
caaaacctga caagacattt caaagaaagt attaaattca ttcacgagtg ccggctccgc      240
ggtgagagct gccttgtaca ctgcctggcc ggggtctcca ggagcgtgac actggtgatc      300
gcatacatca tgaccgtcac tgactttggc tgggagagat ccctgcacac cgtgcgtgct      360
gggagatcct gtgccaaccc caacgtgggc ttccagagac agctccagga gtttgagaag      420
catgaggtcc atcagtatcg gcagtggctg aaggagaagt atggagagag ccctttgcag      480
gatgcagaag aagccaaaaa cattctggcc gctccaggaa ttctgaagtt ctgggccttt      540
ctcagaagac tgtaa                                     555

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<210> 26
 <211> 6
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> Tyrosine phosphorylated peptide derived from EGF
 receptor which is used as a substrate for
 phosphatase activity.

<221> PHOSPHORYLATION
 <222> (5)...(5)

<400> 26
 Asp Ala Asp Glu Tyr Leu
 1 5